

CLAIMS

1. A method of screening a sample for the presence of one or more abnormally glycosylated and/or expressed proteins, comprising the steps of i) exposing said sample to two or more different lectins and/or antibodies ii) determining the extent of
5 binding of said sample to at least two of said lectins and/or antibodies and iii) comparing the determined extent of binding to said at least two lectins and/or antibodies with that of a control sample.
2. A method according to Claim 1, in which the sample comprises a human or
10 animal body fluid.
3. A method according to Claim 2, in which the body fluid sample is directly exposed to said two or more lectins and/or antibodies.
- 15 4. A method according to any preceding Claim, in which the determination is performed in real time.
5. A method according to Claim 4, in which the sample is simultaneously exposed to an array of said two or more lectins and/or antibodies immobilised on a
20 solid support surface.
6. A method according to any of Claims 3 to 5, in which the determination is performed by an evanescent optical technique.

7. A method according to Claim 6, in which said apparatus detects light reflected from at the solid support surface.

8. A method according to any preceding Claim, in which said two or more lectins
5 and/or antibodies comprise only lectins.

9. A method according to any preceding Claim, in which the lectins are specific for sialic acid, galactose, mannose, glucosamine or fucose containing oligosaccharides.

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10. A method according to Claim 9, in which the lectins comprise *Sambucus nigra* agglutinin and/or *Maackia amurensis* agglutinin.

11. A method according to any preceding Claim, in which the protein comprises
15 recombinant erythropoietin, chorionic gonadotropin or human growth hormone.

12. A method according to any of Claims 1 to 10, in which the protein comprises a transferrin.

20 13. A method for determining use of a glycoprotein drug in a mammal comprising the steps of i) taking a body fluid sample ii) exposing said sample to two or more different lectins and/or antibodies iii) determining the extent of binding of said sample to at least two of said lectins and/or antibodies and iii) comparing the extent of binding of said at least two lectins and/or antibodies to that of a control sample.

14. A method according to Claim 13, comprising the features of any one of Claims 2 to 11.

16. A method for the diagnosis of acquired or inherited glycosylation disorders comprising the steps of i) taking a body fluid sample ii) exposing said sample to two or more different lectins and/or antibodies iii) determining the binding pattern of said sample to at least two of said lectins and/or antibodies and iii) comparing the determined extent of binding to said at least two lectins and/or antibodies to that of a control sample.

17. A method according to Claim 16, comprising the features of any one of Claims 2 to 10 or Claim 12.

18. A kit of parts for use in the method of any preceding Claim, comprising one or more lectins and/or antibodies and a control sample and/or information relating to normal or expected glycosylation binding patterns and/or characteristics for an individual type.

19. A kit according to Claim 18, further comprising an SPR, MCLW or DCLW chip.

20. A kit according to Claim 18 or Claim 19, in which the information includes information relating binding patterns and/or characteristics to candidate disease states.

21. A kit according to any of Claims 18 to 20, comprising only lectins.

22. A kit according to any of Claims 18 to 21, in which the lectins comprise lectins specific for sialic acid, galactose, mannose, glucosamine or fucose moities in the protein.

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23. A kit according to Claim 22, in which the lectins comprise *Sambucus nigra* agglutinin and/or *Maackia amurensis* agglutinin.